

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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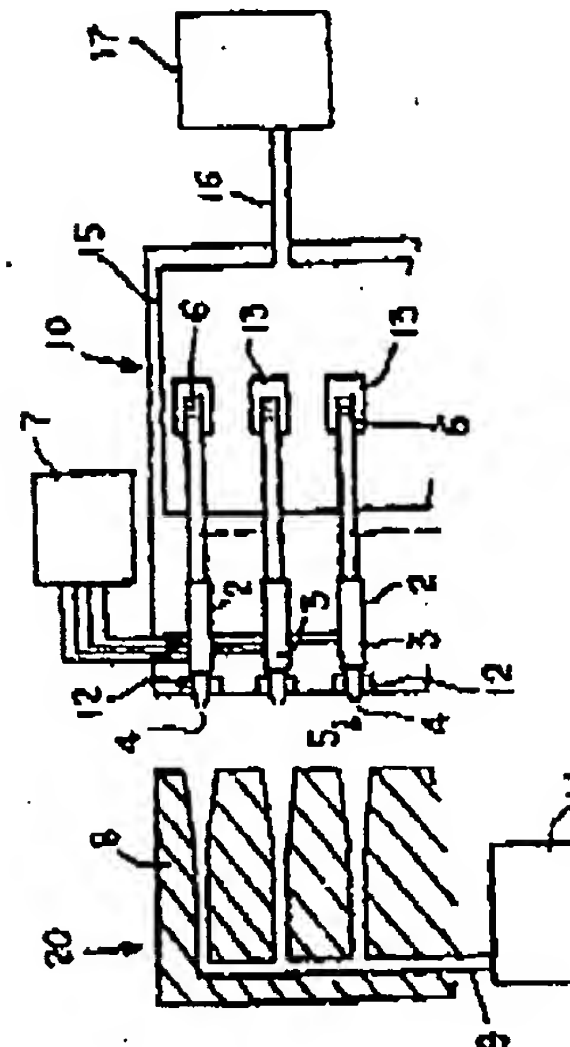
APPLICATION DATE : 13-05-88  
APPLICATION NUMBER : 63116321

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INVENTOR : AOKI ATSUSHI;

INT.CL. : B41J 3/04 B41J 3/04

TITLE : INK JET RECORDER



**ABSTRACT :** **PURPOSE:** To easily remove bubbles in a head to stabilize an ink discharge and form dots with a superior gradation, by heating an ink jet head and an ink in the head by heaters provided in the vicinity of the ink jet head immediately before or after the actuation of a pump.

**CONSTITUTION:** When bubbles are present in an ink in a head 10, heaters 12 in the vicinity of tips of nozzles 1 and heaters 13 in the vicinity of filters on rear ends of the nozzles 1 are turned ON simultaneously with the start of sucking the ink in the head 10 by a pressure reducing pump 11, whereby the ink thereabouts is heated. Then, when the suction of the ink is almost completed, the heaters 12, 13 are turned OFF to stop heating. By this operation, only the ink around such a part having a large fluid resistance as the vicinities of orifices 4 and the filters 6 is heated, the viscosity of the ink is reduced, the fluid resistance is lowered, and the ink easily flows from a sub-ink tank 15 into the nozzles 1. At the same time, the bubbles in the nozzles 1 are discharged from the orifices 4 outside the head 10.

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# ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 04 00 9129

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08-12-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 01285355	A	16-11-1989	NONE	
US 2002062736	A1	30-05-2002	JP 2000190532 A US 6299673 B1	11-07-2000 09-10-2001
US 6126260	A	03-10-2000	NONE	
US 6338554	B1	15-01-2002	NONE	

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For more details about this annex: see Official Journal of the European Patent Office, No. 12/82